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A phase I study to compare the safety and immunogenicity of candidate tuberculosis (TB) vaccine MVA85A administered by the intramuscular route and the intradermal route

Submission date
15/12/2009

Recruitment status
No longer recruiting

Registration date
18/12/2009

Overall study status
Completed

Last Edited
05/03/2019

Condition category
Infections and Infestations

[X] Prospectively registered

[_] Protocol

[_] Statistical analysis plan

[X] Results

[_] Individual participant data

Plain English summary of protocol

Background and study aims
MVA85A is a new vaccine being developed against tuberculosis which is designed to act as a boosting immunisation in people who have already received BCG. In clinical trials so far it has been given intradermally, which means an injection just under the skin, like BCG. However, the majority of licensed vaccines are injected intramuscularly. In this study we wished to assess the safety of MVA85A delivered intramuscularly compared to the intradermal route. We also wished to study the immune response generated by the vaccine by these two routes.

Who can participate?
Healthy BCG-vaccinated adult volunteers aged 18 to 55 were recruited in Oxford, UK.

What does the study involve?
Volunteers were randomly allocated into either the first group which received MVA85A intramuscularly or the second group which received MVA85A intradermally. The dose was the same for both groups. Volunteers were followed-up for six months and underwent blood tests at several time-points.

What are the possible benefits and risks of participating?
There are some known side effects of MVA85A. In healthy adults, a standard dose of intradermal MVA85A causes a mild local reaction when injected into the skin. This is visible as redness and swelling of the skin at the injection site, which lasts a week or two before healing completely without a scar. Occasionally the site of injection is also tender for a few days. About half of volunteers also get mild flu-like symptoms (headache, tiredness, aches) following vaccination with MVA85A but these are mild. It is not known whether intramuscular MVA85A will cause the same side effects. Severe allergic reactions are rare but could potentially occur with any vaccine. Blood tests are performed throughout the trial but are not usually harmful. Having blood taken

may cause slight pain and occasionally bruising at the site where the needle enters. Rarely, people feel light-headed or even faint.There are no known benefits of participating in this research.

Where is the study run from?
University of Oxford (UK)

When is the study starting and how long is it expected to run for?
January to October 2010

Who is funding the study?
The Wellcome Trust (UK)

Who is the main contact?
Prof. Helen McShane

Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Clinical Trials Information System (CTIS)
2009-015973-11

Protocol serial number
076943; TB022

Study information

Scientific Title
Safety and immunogenicity of candidate tuberculosis (TB) vaccine MVA85A administered by the intramuscular route and the intradermal route: a phase I randomised active controlled trial

Study objectives

This is a phase I study that will compare the safety and immunogenicity of candidate tuberculosis (TB) vaccine MVA85A administered by the intramuscular route and the intradermal route in healthy adult individuals who have been previously vaccinated with Bacillus Calmette-Guerin (BCG).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Oxfordshire Research Ethics Committee (OXREC), 02/12/2009, ref: 09/H0604/128

Study design
Phase I randomised active controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Tuberculosis

Interventions
MVA85A is a modified vaccinia virus Ankara expressing antigen 85A from Mycobacterium tuberculosis. All subjects will receive a single vaccination of 1 x 10^8 pfu (plaque forming units) of MVA85A, one group via the intramuscular route and one group via the intradermal route.

Total duration of follow-up: 6 months.

Intervention Type
Biological/Vaccine

Phase
Phase I

Drug/device/biological/vaccine name(s)
MVA85A

Primary outcome(s)
Safety data in both groups, as assessed by the frequency, incidence, and nature of adverse events (AEs) and serious adverse events (SAEs) during the study. Safety is measured throughout the one year follow up period, but specifically on the following days: 2, 7, 14, 28, 56, 84, 168 and 364. Blood for safety testing is taken at Days 7 and 28.

Key secondary outcome(s))
Immunogenicity data in both groups. This will be obtained from exploratory immunological laboratory investigations on blood samples taken at screening, and throughout follow up. Immunogenicity is measured throughout the one year follow up period, but specifically on the following days: 2, 7, 14, 28, 56, 84, 168 and 364.

Completion date
01/01/2011

Eligibility

Key inclusion criteria
1. Healthy adult aged 18 - 55 years (both male and female)
2. Resident in or near Oxford for the duration of the study period
3. Confirmation of prior vaccination with BCG not less than 3 months prior to projected study vaccination date (by visible BCG scar on examination or written documentation)
4. Normal medical history and physical examination
5. Willingness to allow the Investigators to discuss the individuals medical history with their GP
6. Willingness to use continuous effective barrier contraception for three months after receiving the vaccination (males and females)
7. Willingness to use effective contraception for the duration of the study period (females only)
8. Agreement to refrain from blood donation during the course of the study
9. Give written informed consent
10. Agreement to allow the Investigator to register volunteer details with a confidential database to prevent concurrent entry into clinical trials
11. Able and willing (in the Investigators opinion) to comply with all the study requirements

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Clinical, radiological, or laboratory evidence of current active TB infection
2. Laboratory evidence at screening of latent TB infection as indicated by a positive ELISPOT test (greater than 17 sfc/million PBMC) in any ESAT6 peptide or CFP10 peptide poola
3. Previous vaccination with candidate vaccine MVA85A or another recombinant MVA vaccine
4. Clinically significant history of skin disorder, allergy, immunodeficiency (including human immunodeficiency virus [HIV]), cancer (except basal cell carcinoma [BCC] or carcinoma in situ [CIS]), cardiovascular disease, respiratory disease, gastrointestinal disease, liver disease, renal disease, endocrine disorder, neurological illness, psychiatric disorder, drug or alcohol abuse
5. History of serious psychiatric condition
6. Concurrent oral or systemic steroid medication or the use of other immunosuppressive agents
7. History of anaphylaxis to vaccination or any allergy likely to be exacerbated by any component of the study vaccine
8. Any clinically significant abnormality of screening blood or urine tests

9. Positive hepatitis B surface antigen (HBsAg), hepatitis C virus (HCV) or HIV antibodies
10. Female currently lactating, confirmed pregnancy or intention to become pregnant during study period
11. Use of an investigational medicinal product or non-registered drug, live vaccine, or medical device other than the study vaccine for 30 days prior to dosing with the study vaccine, or planned use during the study period
12. Administration of immunoglobulins and/or any blood products within the three months preceding the planned trial vaccination date
13. Any other significant disease, disorder, or finding, which, in the opinion of the Investigator, may either put the volunteer at risk or may influence the result of the study or may affect the volunteers ability to participate in the study

Date of first enrolment
01/02/2010

Date of final enrolment
01/07/2010

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Jenner Institute
Oxford
United Kingdom
OX3 7DQ

Sponsor information

Organisation
University of Oxford (UK)

ROR
https://ror.org/052gg0110

Funder(s)

Funder type
Charity

Funder Name
Wellcome Trust - Senior Clinical Fellowship Grant (grant ref: 076943)

Alternative Name(s)

Funding Body Type
Private sector organisation

Funding Body Subtype
International organizations

Location
United Kingdom

Funder Name
NIHR Oxford Biomedical Research Centre

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	04/02/2013		Yes	No