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Safety and immunogenicity of a new tuberculosis (TB) vaccine (MVA85A) in healthy volunteers in Cape Town

Submission date
24/01/2008

Recruitment status
No longer recruiting

Registration date
25/01/2008

Overall study status
Completed

Last Edited
03/03/2016

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Tuberculosis (TB) is a highly contagious bacterial infection. It is generally spread by breathing in tiny droplets released into the air by an infected person coughing or sneezing. TB usually affects the lungs, but it can also affect other areas of the body such as the bones, brain and kidneys. It is particularly common in third world countries and an infection can be devastating if it is not treated. MVA85A is a new vaccine which has been developed to prevent people from catching TB (immunise). The aim of this study is to investigate the safety and the effectiveness as a vaccine (immunogenicity) of this vaccine in healthy adults and adolescents.

Who can participate?
Healthy adults aged between 18 and 50 and healthy adolescents aged between 12 and 14 living in Cape Town (Africa), who have tested negative for TB.

What does the study involve?
All participants receive a single intradermal injection (injection into the lower layer of skin) of the MVA85A TB vaccine. After one year, all participants are followed up and have a blood test in order to find out if there are chemical indicators (biomarkers) suggesting that they have become immune to TB. Participants are also monitored to see if they show any signs of undesirable side-effects to the vaccine.

What are the possible benefits and risks of participating?
There are no direct benefits of participating, however participants are able to receive information about their general health. There is a risk of pain and bruising when blood is taken and during injections, as well as common complications of the vaccination (mild to moderate discomfort at the site of vaccination) and uncommon complications, which include headache, fever and soreness and itching at the site of the injection.

Where is the study run from?
Brewelskloof Hospital, Worcester, Western Cape Province (South Africa)

When is the study starting and how long is it expected to run for?
August 2005 to May 2008

Who is funding the study?
Wellcome Trust (UK) (Grant reference: 081122)

Who is the main contact?
Dr Helen McShane
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Contact information

Type(s)
Scientific

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Additional identifiers

ClinicalTrials.gov (NCT)
NCT00460590

Protocol serial number
TB008; 081122

Study information

Scientific Title
A phase I study evaluating the safety and immunogenicity of a new TB vaccine MVA85A, in healthy volunteers with no evidence of infection with mycobacterium tuberculosis, in Cape Town

Study objectives
To assess the safety and immunogenicity of a new TB vaccine (MVA85A) in healthy adults and adolescents in South Africa.

This is an observational and descriptive safety study. 12 subjects with evidence of prior Bacille Calmette-Guerin (BCG) vaccination and 12 adults with no evidence of prior BCG vaccination will be recruited and vaccinated with MVA85A. This sample size should allow determination of the magnitude of the outcome measures, especially of serious and severe adverse events and immunology, rather than aiming to obtain statistical significance. Once three month follow-up of these two arms of the study is complete, we will recruit 12 adolescent school children (aged 12 - 14 years) and assess the safety and immunogenicity of a single immunisation with MVA85A in this group.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. The Oxford Tropical Research Ethics Committee on the 24th March 2005 (ref: 05/Q1604/12)
2. The University of Cape Town Research Ethics Committee on the 30th May 2005 (ref: 383/2004)

Primary study design
Interventional

Study design
A single site open label phase I safety study

Study type(s)
Treatment

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 intradermal vaccination of 5x10^7 pfu (plaque forming units) of MVA85A. There is no control group.

Follow up is for 12 months.

Intervention Type
Drug

Phase
Phase I

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

Primary outcome(s)
The specific endpoints for safety and reactogenicity will be actively and passively collected data on adverse events (AEs) at follow up visits up to a year post-vaccination.

Key secondary outcome(s)

The specific endpoints for immunogenicity will be markers of cell-mediated immunity (e.g. gamma interferon [IFN-g], tumour necrotising facto alpha [TNF-a], etc) at follow up visits up to a year post-vaccination.

Completion date
31/05/2008

Eligibility

Key inclusion criteria
1. Healthy adults aged 18 to 50 years (for the first 2 arms), either sex
2. Healthy adolescents (aged 12 - 14) for the third arm of the study, either sex
3. Screening Elispot negative (less than 17 spots/million PBMC) in all three ESAT6 pools and all three CFP10 pools
4. Mantoux test less than 15 mm (less than 10 mm if BCG negative)
5. Chest x-ray (CXR) normal with no evidence of active or past TB
6. For females only, willingness to practice continuous effective contraception during the study and a negative pregnancy test on the day of vaccination
7. Agreement to refrain from blood donation during the course of the study
8. Written informed consent
9. Willingness to undergo a human immunodeficiency virus (HIV) test

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Other

Sex
All

Key exclusion criteria
1. Any deviation from the normal range in biochemistry or haematology blood tests or in urine analysis
2. Mantoux greater than 15 mm
3. Prior receipt of a recombinant MVA or Fowlpox vaccine
4. Use of any investigational or non-registered drug, live vaccine or medical device other than the study vaccine within 30 days preceding dosing of study vaccine, or planned use during the study period
5. Administration of chronic (defined as more than 14 days) immunosuppressive drugs or other immune modifying drugs within six months of vaccination (for corticosteroids, this will mean prednisolone, or equivalent, 0.5 mg/kg/day. Inhaled and topical steroids are allowed).
6. Any confirmed or suspected immunosuppressive or immunodeficient condition, including HIV infection and asplenia
7. History of allergic disease or reactions likely to be exacerbated by any component of the vaccine, e.g. egg products
8. Evidence of cardiovascular disease

9. History of cancer (except basal cell carcinoma of the skin and cervical carcinoma in situ)
10. History of diabetes mellitus
11. Chronic or active neurological disease requiring ongoing specialist or medical supervision
12. Chronic gastrointestinal disease requiring ongoing specialist or medical supervision
13. History of greater than two hospitalisations for invasive bacterial infections (pneumonia, meningitis)
14. Suspected or known current alcohol abuse as defined by an alcohol intake of greater than 42 units every week
15. Seropositive for hepatitis B surface antigen (HBsAg)
16. Seropositive for hepatitis C virus (antibodies to HCV)
17. Evidence of serious psychiatric condition
18. Any other ongoing chronic illness requiring hospital specialist or medical supervision
19. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate
20. Pregnant or lactating female
21. Female who is willing or intends to become pregnant during the study
22. Any history of anaphylaxis in reaction to vaccination
23. Inability to give informed consent
24. PI assessment of lack of willingness to participate and comply with all requirements of the protocol
25. Any other finding which in the opinion of the investigator would significantly increase the risk of having an adverse outcome from participating in this protocol

Date of first enrolment
15/09/2005

Date of final enrolment
22/05/2008

Locations

Countries of recruitment
South Africa

Study participating centre
Brewelskloof Hospital, Worcester
Haarlem Street
Worcester
South Africa
6850

Sponsor information

Organisation
University of Oxford (UK)

ROR
https://ror.org/052gg0110

Funder(s)

Funder type
Charity

Funder Name
The Wellcome Trust (UK) - Technology Transfer Division (TTD) award (grant ref: 081122)

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	15/08/2008		Yes	No
Results article	results	01/01/2010		Yes	No