ISRCTN54494731 https://doi.org/10.1186/ISRCTN54494731

Pneumococcal conjugate vaccine trial: PNEUVAC TRIAL

Submission date	Recruitment status	[_] Prospectively registered
22/07/2005	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
22/07/2005	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
01/12/2016	Infections and Infestations	

Plain English summary of protocol

Background and study aims

The pneumococcus bacterium is a leading problem in HIV-infected adults. It is the leading cause of bacterial meningitis and a principal cause of bloodstream infection/blood poisoning (pneumococcal disease). HIV-infected individuals who have had one attack of serious pneumococcal infection have a 1 in 4 chance of a further attack in the next 12 months. Disease is often severe and death occurs in 20% of cases. Vaccines for preventing pneumococcal disease have been available for over 90 years, based on vaccinating with the outer lining of the bacterium, the capsule. The vaccine recommended for adults contains capsule for 23 types of pneumococci (23-valent). There are over 90 types but most disease is caused by these 23 types. Immunisation with the 23-valent vaccine was tested in HIV-infected adults in Uganda, but the vaccine failed to provide protection. A second generation of pneumococcal vaccines has been licensed for use in children. As the vaccine was developed primarily for use in children, information on the role of the vaccine in adults and particularly HIV-infected adults is lacking. The aim of this study is to test the effectiveness of the new vaccine to prevent pneumococcal disease in HIV-infected adults.

Who can participate?

Patients aged over 15 who have recovered from a serious pneumococcal infection and are willing to have an HIV test.

What does the study involve?

Participants are randomly allocated to receive either the active vaccine or a placebo (dummy) injection. The vaccination consists of two injections given into the upper arm, 4-6 weeks apart. Participants are followed–up every three months. If a participant becomes unwell they are requested to attend the Queen Elizabeth Central Hospital to be investigated for pneumococcal infection. Transport costs are provided for routine visits and those requested by the Doctor. Blood tests are carried out at routine visits and when participants are unwell – this will be 10-25 ml of blood. An HIV test is performed on the first blood sample. The results of the HIV test are available to the participants. In addition to blood tests a samples from the nose is taken at each visit to investigate for the presence of the pneumococcus in the nose.

What are the possible benefits and risks of participating?
Benefits include increased access to clinical services both for routine follow up of HIV and more rapid assessment of acute illness episodes, with greater access to diagnostic services than available routinely within the hospital. The study will encourage uptake of HIV test results with appropriate support and thereby increase access to HIV services and beneficial treatments. Risks include possible side effects from vaccination, although work to date suggests this is a very safe vaccine with low rates of reaction. There will be discomfort associated with the blood sampling and nasal swabbing, although these will be transitory. Because a great deal of research going on is HIV associated, there is the potential for individuals to be identified as HIV-infected by association with the study. Confidentiality and integration of services into routine care will minimize this risk.

Where is the study run from?
Queen Elizabeth Central Hospital, Blantyre, Malawi

When is the study starting and how long is it expected to run for?
February 2003 to October 2007

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

Who is the main contact?
Prof. Neil French
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

ClinicalTrials.gov (NCT)
NCT00371878

Protocol serial number
061230

Study information

Scientific Title
Investigation of the humoral immune response to pneumococcal polysaccharides and the role of a conjugate pneumococcal vaccine in secondary prevention of invasive pneumococcal disease in human immunodeficiency virus (HIV)-infected Africans

Acronym
PNEUVAC

Study objectives
Efficacy of a seven-valent pneumococcal conjugate vaccine to prevent recurrent episodes of vaccine serotype invasive pneumococcal disease (IPD) in a primarily human immunodeficiency virus (HIV)-infected adult population.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. University of Malawi, College of Medicine Research and Ethics Committee, 12/01/2001, ref: P. 99/00/101
2. Liverpool School of Tropical Medicine Research and Ethics Committee, 20/12/2000, ref: 00.60

Study design
Randomised controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Invasive pneumococcal disease in HIV-infected Africans

Interventions
Participants are recruited from individuals who are convalescing from a known invasive pneumococcal disease event. They are randomised into two arms in a 1:1 ratio to receive two doses of vaccine one month apart. In the active arm the vaccine is Prevenar® (Wyeth pharmaceuticals seven-valent pneumococcal conjugate vaccine with a CRM carrier protein). In the control arm participants receive a matching saline placebo.

Vaccine is given as a 0.5 ml injection into the non-dominant deltoid muscle. Participants are followed up at three-monthly intervals and encouraged to attend the hospital when sick for evaluation of their illness. Individuals will be followed as long as they remain alive and within the study area until the follow-up censure date which was set at 31st October 2007. Total follow up is 798 person years with a median follow up time of 1.24 years [Range 2 days to 4.66 years].

Intervention Type
Biological/Vaccine

Primary outcome(s)

Vaccine serotype invasive pneumococcal disease

Key secondary outcome(s))
1. All invasive pneumococcal disease death
2. All cause pneumonia

Completion date
31/10/2007

Eligibility

Key inclusion criteria
1. Confirmed case of IPD discharged from hospital
2. Resident of Blantyre and its immediately neighbouring districts
3. Willing to attend Queen Elizabeth Central Hospital (QECH) when sick
4. Aged over 15 years, either sex
5. Willing to have HIV testing performed on stored serum

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
1. Pregnancy
2. Previous pneumococcal vaccine
3. Active acute systemic illness - following recovery participant may be recruited
4. Past hypersensitivity reaction to vaccination
5. Bed-ridden or life expectancy judged to be less than three months

Date of first enrolment
28/02/2003

Date of final enrolment
31/05/2007

Locations

Countries of recruitment
Malawi

Study participating centre
Malawi-Liverpool-Wellcome Trust Labs
Blantyre
Malawi
Box 3009

Sponsor information

Organisation
University of Liverpool (UK)

ROR
https://ror.org/04xs57h96

Funder(s)

Funder type
Charity

Funder Name
Wellcome Trust (UK) (grant ref: 061230)

Alternative Name(s)

Funding Body Type
Private sector organisation

Funding Body Subtype
International organizations

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	04/03/2010		Yes	No
Results article	results	01/09/2016		Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes