

Evaluation of heterosubtypic immune responses in older people

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| Submission date 23/04/2010 | Recruitment status No longer recruiting | <input type="checkbox"/> Prospectively registered |
| | | <input type="checkbox"/> Protocol |
| Registration date 23/04/2010 | Overall study status Completed | <input type="checkbox"/> Statistical analysis plan |
| | | <input type="checkbox"/> Results |
| Last Edited 20/07/2016 | Condition category Infections and Infestations | <input type="checkbox"/> Individual participant data |
| | | <input type="checkbox"/> Record updated in last year |

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

Contact name
Dr Iain Stephenson

Contact details
Leicester Royal Infirmary
Infirmary Square
Leicester
United Kingdom
LE1 5WW

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
6155; G0700846

Study information

Scientific Title

Evaluation of heterosubtypic immune responses in older people before and after seasonal and pandemic influenza vaccination

Study objectives

Vaccination is the principal means of combating epidemic and pandemic influenza. As vaccines induce relatively strain-specific and short-lived antibody responses, annual immunisation with regularly updated vaccine is recommended for seasonal influenza, but would not be expected to protect against a pandemic event. In clinical trials among immunologically naïve young adults, at least two doses of conventional avian influenza H5 or H9 subunit vaccine are needed to induce moderate homologous antibody responses. However, studies including older subjects have unexpectedly found that greater than 15% and 50% of people aged over 65 years have pre-vaccination neutralising antibody to influenza H5 and H9 haemagglutinin (HA) respectively. In contrast to recipients who are antibody-negative, these subjects mount a robust antibody response to single dose H5 or H9 pandemic vaccine, more consistent with responses seen following single dose seasonal influenza vaccine suggesting that they are effectively primed to at least some strains of avian influenza. It is important to have an understanding of the basis for this as it may help steer the development of vaccines that induce broader immunity.

Immunological objectives:

1. To evaluate heterosubtypic neutralising antibody to influenza viruses in older people
2. To evaluate heterosubtypic neutralising antibody responses to human and non-human influenza viruses following seasonal influenza vaccine
3. To evaluate homologous and heterosubtypic neutralising antibody responses to human and non-human influenza viruses after MF59-adjuvanted H5N1 vaccine

Ethics approval required

Old ethics approval format

Ethics approval(s)

Oxfordshire REC A approved on the 1st July 2008 (ref: 08/H0304/51)

Study design

Non-randomised interventional prevention trial

Primary study design

Interventional

Secondary study design

Non randomised controlled trial

Study setting(s)

GP practice

Study type(s)

Prevention

Participant information sheet

Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied

Topic: Inflammatory and Immune System, Generic Health Relevance and Cross Cutting Themes, Infection; Subtopic: Infection (all Subtopics), Inflammatory and Immune System (all Subtopics); Disease: Immunology and inflammation, Age and ageing

Interventions

Subjects will receive two doses of monovalent 7.5 microgram MF59-adjuvanted H5N1 vaccine by intramuscular injection, 3 weeks apart. Subjects will also receive 45 microgram trivalent seasonal influenza vaccine, one dose by intramuscular injection.

Intervention Type

Other

Phase

Phase I/II

Primary outcome measure

1. Antibody titres (geometric mean titres) and mean fold rise after vaccination at visit 2, 3, 4 and 5
2. Proportion of subjects achieving seroconversion after vaccination at visits 2, 3, 4 and 5
3. Proportion of subjects achieving seroprotection (titre of $\geq 1:40$) after vaccination at visits 2, 3, 4 and 5

Secondary outcome measures

1. Cell mediated responses after vaccination at visit 1, 3 and 5
2. Frequency of solicited adverse reaction reported after vaccination at visits 2, 3, 4 and 5

Overall study start date

15/08/2009

Completion date

01/07/2010

Eligibility

Key inclusion criteria

1. Healthy subjects aged greater than or equal to 18 years of age, either sex
2. Subjects willing to receive vaccine in the trial
3. Able to complete informed consent and attend study visits

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Both

Target number of participants

Planned Sample Size: 520

Key exclusion criteria

1. Receipt of another investigational agent within 4 weeks, or before completion of the safety follow-up period in another study, whichever is longer, prior to enrolment and unwilling to refuse participation in another clinical study through the end of the study
2. Subjects who experienced any acute disease or infection requiring systemic antibiotic or antiviral therapy (chronic antibiotic therapy for urinary tract prophylaxis is acceptable) within the past 7 days before Visit 1 or any visit where trial vaccination is planned
3. Subjects who experienced fever (defined as axillary temperature greater than or equal to 38.0° C) within 3 days prior to Visit 1
4. Subjects who are pregnant or breastfeeding
5. Females of childbearing potential who refuse to use an acceptable method of birth control for the duration of the study. Adequate contraception is defined as hormonal (e.g., oral, injection, transdermal patch, implant, cervical ring), barrier (e.g., condom with spermicide or diaphragm with spermicide), intrauterine device (e.g., IUD), or monogamous relationship with vasectomized partner who has been vasectomized for 6 months or more prior to the subject's study entry
6. Subjects with any serious disease, such as:
 - 6.1. Cancer
 - 6.2. Autoimmune disease (including rheumatoid arthritis)
 - 6.3. Progressive chronic pulmonary disease (stable controlled respiratory disease including asthma is allowed)
 - 6.4. Acute or progressive hepatic disease
 - 6.5. Acute or progressive renal disease
7. Subjects for whom elective surgery is planned during the study period
8. Subjects with bleeding diathesis
9. Subjects with hypersensitivity to eggs, chicken protein, chicken feathers, influenza viral protein, neomycin or polymyxin or any other component of the study vaccine
10. Subjects with a history of any neurological symptoms or signs, or anaphylactic shock following administration of any vaccine
11. Subjects with known or suspected impairment/alteration of immune function, for example, resulting from:
 - 11.1. Receipt of immunosuppressive therapy (any corticosteroid therapy or cancer chemotherapy)
 - 11.2. Receipt of immunostimulants
 - 11.3. Receipt of parenteral immunoglobulin preparation, blood products, and/or plasma derivatives within 3 months prior to Visit 1 or planned during the full length of the study
 - 11.4. High risk for developing an immunocompromising disease
12. Receipt of another vaccine within 3 weeks prior to Visit 1 or planned vaccination within 3 weeks following the last study vaccination
13. Subjects with a history of (or current) drug or alcohol abuse that in the investigator's opinion would interfere with safety of the subject or the evaluation of study objectives
14. Subjects with any condition, which, in the opinion of the Investigator, might interfere with the evaluation of the study objectives

Date of first enrolment

15/08/2009

Date of final enrolment

01/07/2010

Locations**Countries of recruitment**

England

United Kingdom

Study participating centre

Leicester Royal Infirmary

Leicester

United Kingdom

LE1 5WW

Sponsor information**Organisation**

University Hospitals of Leicester NHS Trust (UK)

Sponsor details

Cancer and Haematology Services

Leicester Royal Infirmary

Infirmary Square

Leicester

England

United Kingdom

LE1 5WW

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Carolyn.maloney@uhl-tr.nhs.uk

Sponsor type

Hospital/treatment centre

Website

<http://www.uhl-tr.nhs.uk/>

ROR

<https://ror.org/02fha3693>

Funder(s)

Funder type

Research council

Funder Name

Medical Research Council (MRC) (UK) (ref: G0700846)

Alternative Name(s)

Medical Research Council (United Kingdom), UK Medical Research Council, MRC

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date**Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration