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# Orally inhaled heparin in patients with cystic fibrosis (CF)

| Submission date | Recruitment status | [X] Prospectively registered |
|---|---|---|
| 25/07/2008 | No longer recruiting | [_] Protocol |
| **Registration date** | **Overall study status** | [_] Statistical analysis plan |
| 02/09/2008 | Completed | [_] Results |
| **Last Edited** | **Condition category** | [_] Individual participant data |
| 08/08/2016 | Nutritional, Metabolic, Endocrine | [_] Record updated in last year |

**Plain English summary of protocol**
Not provided at time of registration

## Contact information

**Type(s)**
Scientific

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**
VR496/005

# Study information

## Scientific Title
A phase I/II randomised, placebo-controlled, double blind trial to assess the safety, tolerability, pharmacodynamics and exploratory efficacy of heparin inhalation in patients with cystic fibrosis (CF)

## Study objectives
Orally inhaled Heparin is expected to provide advantages over currently available treatments for cystic fibrosis (CF) in a patient convenient delivery system.

## Ethics approval required
Old ethics approval format

## Ethics approval(s)
1. Multi-Centre Research Ethics Committee for Wales (UK) gave approval on 18th March 2008
2. Irish Ethics Committee (St Vincent's Healthcare Group Ltd Ethics) approved the study on 11th November 2008
Added 20/04/2010
3. Polish Ethics Committee (Bioethics Committee of the Medical University, Lodz) final approval gained on the 14th July 2009 (previously stated as the 21st April 2009)
4. Italian Central Ethics Committee (Comitato Etico, Azienda Ospedaliera Universitaria Integrata, Verona, approved on the 13th April 2010
Added 07/06/2010
5. Bellberry Human Research Ethics Committee, Dulwich, South Australia approved on the 20th April 2010

## Study design
Randomised double blind placebo controlled trial

## Primary study design
Interventional

## Secondary study design
Randomised controlled trial

## Study setting(s)
Hospital

## Study type(s)
Treatment

## Participant information sheet

## Health condition(s) or problem(s) studied
Cystic fibrosis

## Interventions

Patients will be randomised to receive one of three daily dose levels of heparin treatment or matching placebo; to be self-administered by inhalation by the patient twice daily for four consecutive weeks. Nominal Daily Doses to be studied are: 11400 IU, 22800 IU and 45600 IU.

For each patient there will be a screening period of 4 weeks, a treatment period of 4 weeks with a follow-up period of 2 weeks.

### Intervention Type
Drug

### Phase
Phase I/II

### Drug/device/biological/vaccine name(s)
Heparin inhalation powder

### Primary outcome measure
Safety and tolerability.

Timepoints:
Five visits to the trial centre are included: screening, baseline, week 2, week 4 and, for follow-up, week 6.

### Secondary outcome measures
Assessment of:
1. Sputum properties (i.e., rheological viscoelasticity/physicochemical measurement parameters)
2. Sputum inflammatory markers
3. Exhaled breath condensate pH
4. Blood plasma inflammatory markers
5. Blood coagulation
6. Visual Analogue Scale (VAS) parameters
7. Sputum microbiology
8. Pulmonary function parameters including FEV1 and forced vital capacity (FVC)
9. Response to the Cystic Fibrosis Questionnaire

Timepoints:
Five visits to the trial centre are included: screening, baseline, week 2, week 4 and, for follow-up, week 6.

### Overall study start date
01/11/2008

### Completion date
30/11/2010

## Eligibility

### Key inclusion criteria
Amendment as of 20/04/2010:
Point one below has been amended as follows:
1. Male or female, aged 16 years or older

Current information as of 21/09/2009:
1. Male or female, aged 18 years or older
2. Non-smoker
3. Written informed consent obtained prior to any trial specific procedures
4. Confirmed diagnosis of CF lung disease (i.e., respiratory clinical symptoms and positive sweat test or disease inducing mutations) by CF expert/investigator
5. Forced expiratory volume in one second (FEV1) at 40 - 90% of predicted value for age, sex and height at screening and baseline
6. FEV1 value at Baseline is within +/-15% of value at screening
7. Regular mucus production due to CF
8. Ease of sputum expectoration as defined by VAS score of ≤ 80 mm
9. Inflammatory markers above upper limit of normal range.
10. Adequate contraceptive measures.
11. Able to comply with all protocol requirements
12. Able to use inhalation device.

Amended as of 17/04/2009:
Please note that point 5 of the below criteria has been amended to read:
5. Forced expiratory volume in one second (FEV1) at 40 - 90% of predicted value for age, sex and height at screening and baseline

Initial information at time of registration:
1. Male or female, aged 18 years or older
2. Non-smoker
3. Written informed consent obtained prior to any trial specific procedures
4. Confirmed diagnosis of CF lung disease (i.e., respiratory clinical symptoms and positive sweat test or disease inducing mutations) by CF expert/investigator
5. Forced expiratory volume in one second (FEV1) at 40 - 80% of predicted value for age, sex and height during six months prior to screening
6. FEV1 within 10% of best value during six months prior to screening
7. Regular mucus production due to CF

## Participant type(s)
Patient

## Age group
Adult

## Lower age limit
18 Years

## Sex
Both

## Target number of participants
64

## Key exclusion criteria
Initial information at time of registration:
To be eligible for inclusion into this trial, each patient must not violate any one of the following

exclusion criteria at the time of screening, at the time of assessment or as specifically described below:
1. Any contraindication to Monoparin® considered clinically relevant
2. Increased bleeding risk
3. History of heparin-induced thrombocytopaenia
4. Patients with bleeding diathesis
5. Evidence of portal hypertension (e.g., hypersplenism or known grade III/IV oesophageal varices)
6. Clinically significant liver disease
7. Pregnancy at screening, or lactation
8. Previous thoracic or scheduled major surgery during trial
9. Any regular anticoagulant therapy (e.g., warfarin, aspirin) in the two weeks prior to screening
10. Modification of medication to treat respiratory disease between screening and baseline (Day 1)

Added 17/04/2009:
11. Diagnosis or history of aspergilloma

Added 21/09/2009:
12. Clinically significant serious disease or organ system disease not currently controlled / stable on present therapy
13. Planned hospitalisations which could interfere with trial compliance
14. Unable for any other reason to satisfactorily comply with the protocol (e.g., attendance for trial visits, treatment or assessments)

### Date of first enrolment
01/11/2008

### Date of final enrolment
30/11/2010

## Locations

### Countries of recruitment
England

Ireland

Italy

Poland

United Kingdom

### Study participating centre
**Vectura Limited (UK)**
Chippenham
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SN14 6FH

# Sponsor information

**Organisation**
Vectura Limited (UK)

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**Sponsor type**
Industry

**Website**
http://www.vectura.com/

**ROR**
https://ror.org/000ydq217

# Funder(s)

**Funder type**
Industry

**Funder Name**
Vectura Limited (UK)

# 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