ISRCTN23400701 https://doi.org/10.1186/ISRCTN23400701

ChILD-EU database and observational study

Submission date 07/11/2013	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol
Registration date 19/12/2013	**Overall study status** Completed	[_] Statistical analysis plan [X] Results
Last Edited 28/09/2020	**Condition category** Respiratory	[_] Individual participant data

Plain English summary of protocol

Background and study aims
Childhood Interstitial Lung Diseases (ChILD) are a group of rare diseases of the lung: most conditions have a poor outcome. There are too few cases in each country to enable adequate research. The ChILD-EU project, funded by the European Commission, is bringing together clinicians and chILD cases from across Europe. The study will gather information into a Europe-wide database and also enable outcomes to be studied.

Who can participate?
Infants and children coming to hospital with suspected interstitial lung disease

What does the study involve?
Information is collected on each patient at diagnosis, who are then observed over the first year following diagnosis (at 1, 2, 3, 6 and 12 months). At the time of diagnosis all patients in the database have their diagnosis and treatment reviewed by an expert team to ensure diagnostic validity. Measurements recorded typically are those routinely monitored during normal clinic visits. Parents and older children are also asked to fill in questionnaires at the start of the study and again after 3, 6 and 12 months. To enable genetic investigation, blood samples are collected from each child and their parents.

What are the possible benefits and risks of participating?
There are no direct benefits to the parents or children taking part in this study. However, the information from this study will show which approaches to treatment give better outcomes.

Where is the study run from?
The study is run from hospitals across Europe

When is the study starting and how long is it expected to run for?
January 2014 to June 2016

Who is funding the study?
European Commission Directorate-General for Research and Innovation, FP7-Health-2012-Innovation-1

Who is the main contact?
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Contact information

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Scientific

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Additional identifiers

Study information

Scientific Title

Orphans Unite: ChILD better together EUropean management platform for childhood interstitial lung diseases

Acronym
ChILD-EU

Study objectives
There are limited studies bringing together children with interstitial lung disease and no studies assessing the response to standardised interventions in Childhood Interstitial Lung Diseases (ChILD). The paucity of cases in each centre and the lack of an evidence-based treatment approach requires a structured observation of current practice to inform future research directions. The aim is to capture interventions and outcomes in well-characterised patients with suspected and proven ChILD. Such information will provide data on outcome in relation to standard interventions and support further research directions.

Studies in France, Germany, Italy and Turkey will collect similar information to add to the UK data in the database.

Ethics approval required
Old ethics approval format

Ethics approval(s)
South-East Scotland REC2, 08/11/2013, ref: 13/SS/0195

Primary study design
Observational

Study design
Observational cohort multi-centre study

Study type(s)
Screening

Health condition(s) or problem(s) studied
Childhood interstitial lung disease (chILD)

Interventions
Observations will start from time of presentation at hospital during which the diagnosis is made and participants will continue in the trial for 12 months. Participants will be given the usual treatment for ChILD and data will be collected at seven time points. The data collected will include respiratory measurements, treatments, images of scans and histology samples and patient-reported outcome questionnaires. At study entry blood samples for genetic analysis will be collected from the participant and the participant's parents. Previously diagnosed cases of chILD will only enter the database and biobank study and so will only capture data at study entry and for peer review after 1 year.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)

For the database and biobank study - collate detailed information on clinical cases of possible ChILD on a central database and biobank.

For the observational study - describe outcomes at 1, 2, 3, 6 and12 months in infants and children with ChILD.
Outcomes measured will be:
1. Death
2. Survival on artificial ventilatory support (invasive or non-invasive)
3. Survival in supplemental oxygen
4. Survival breathing room air
5. Quality of life (QoL)

Key secondary outcome(s)

For the database and biobank study:
1. To review each case by an experienced international interdisciplinary peer review team to provide diagnostic oversight and feedback
2. To provide annual updates of diagnosis and outcome in a feedback loop via peer review
3. To store for future research, blood samples for genetic analysis of cases and parents
4. To support paediatricians and families caring for children with ChILD

For the observational study:
To describe variance in outcome at 1, 2, 3, 6 and 12 months in infants and children with ChILD according to:
1. Diagnosis and presentation
1.1. Diagnosis (peer review)
1.2. Diagnostic certainty (peer review)
1.3. Computed tomography (CT) score by component radiologist (peer review)
1.4. Blood oxygen saturation (SpO2) at rest in room air at presentation
1.5. SpO2 asleep in room air at presentation (nadir)
1.6. Respiratory rate (RR) (z score) at rest in air at presentation
1.7. Heart rate (HR) (z score) in air at presentation
1.8. Blood pressure at rest for 5 minutes at presentation
1.9. Weight (z-score) at presentation
1.10. Leland Fan 5 point severity score (nil, symptoms, SpO2 <90% air asleep, SpO2 at rest, pulmonary hypertension).
2. Time to treatment and improvement
2.1. Time from onset of symptoms/signs of ChILD to first treatment
2.2. Time from onset of symptoms/signs of ChILD to diagnosis (local clinical)
2.3. Time from onset of symptoms/signs of ChILD to normoxia whilst awake (SpO2 ≥94% breathing room air at rest)
2.4. Time from onset of symptoms/signs of ChILD to respiratory rate in normal range for age (Fleming, Thompson et al. 2011)
2.5. Time from onset of first treatment to reduction in RR by 10%
2.6. Time from onset of first treatment to reduction in HR by 20%
2.7. Time from onset of symptoms/signs of ChILD to normoxia whilst asleep (SpO2 ≥94% breathing room air at rest)
2.8. Time from onset of symptoms/signs of ChILD to weight appropriate for age/height without use of calorie supplementation
2.9. Time from onset of treatment to improvement in weight by 10%
3. Treatments

3.1. Steroids: use of steroids, dose, route and frequency of steroid use, time from first presentation to initiation of steroids, number of concomitant ChILD treatments at time of starting steroids
3.2. Hydroxychloroquine: use of hydroxychloroquine, dose and frequency of hydroxychloroquine, time from first presentation to initiation of hydroxychloroquine, number of concomitant ChILD treatments at time of starting hydroxychloroquine
3.3. Azithromycin: use of azithromycin, dose and frequency of azithromycin, time from first presentation to initiation of azithromycin, number of concomitant ChILD treatments at time of starting azithromycin
4. Concomitant medicines
5. Follow-up review
5.1. SpO2 in room air measured 4 weeks after commencing initial treatment
5.2. RR at rest measured 4 weeks after commencing initial treatment
5.3. Heart rate at rest measured 4 weeks after commencing initial treatment
6. Quality of Life score - PEDS QL Generic Core Scales at 0 and 12 months
7. Questionnaire for health care utilisation and costs
7.1. Utilisation of inpatient and outpatient care to calculate direct costs gathered at 0, 3, 6 and 12 months
7.2. Loss of productivity of parents and children to calculate indirect costs gathered at 0, 3, 6 and 12 months

Completion date
30/11/2016

Eligibility

Key inclusion criteria
Infants and children presenting to hospital with clinician-suspected interstitial lung disease or at least three of the following four criteria present:
1. Respiratory symptoms for at least 14 days
1.1. Cough
1.2. Rapid and/or difficult breathing
1.3. Exercise intolerance
2. Respiratory signs
2.1. Tachypnea
2.2. Adventitious sounds
2.3. Retractions
2.4. Digital clubbing
2.5. Failure to thrive
2.6. Respiratory failure
3. Hypoxemia
4. Diffuse abnormalities on a chest radiograph or computerised tomography (CT) scan

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Child

Sex
All

Total final enrolment
127

Key exclusion criteria
A participant would be excluded from the database if ineligible to participate in the ChILD-EU Minimal Dataset observation and follow-up study.
Exclusion criteria are common causes of diffuse lung disease, including but not exclusively:
1. Cystic fibrosis
2. Respiratory distress syndrome
3. Bronchopulmonary dysplasia
4. Acute infection (viral or bacterial)
5. Inherited or acquired immune deficiency

Date of first enrolment
01/04/2014

Date of final enrolment
30/11/2016

Locations

Countries of recruitment
United Kingdom

England

Scotland

Wales

Study participating centre
Royal Hospital for Sick Children
Edinburgh
United Kingdom
EH9 1LF

Study participating centre
John Radcliffe Hospital
Headley Way
Oxford
United Kingdom
OX3 9DU

Study participating centre
Royal Liverpool Children's Hospital
Alder Hey
Eaton Road
Liverpool
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L12 2AP

Study participating centre
King's College Hospital
Denmark Hill
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United Kingdom
SE5 9RS

Study participating centre
Leeds General Infirmary
Great George Street
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LS1 3EX

Study participating centre
RCPCH Nottingham Children's Hospital
QMC
Derby Road
Nottingham
United Kingdom
NG7 2UH

Study participating centre
Royal Aberdeen Children's Hospital
Cornhill Road
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United Kingdom
AB25 2ZG

Study participating centre

Bristol Royal Hospital for Children
Upper Maudlin Street
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BS2 8BJ

Study participating centre
Royal Brompton Hospital
Sydney Street
London
United Kingdom
SW3 6NP

Study participating centre
The Royal Hospital for Children
1345 Govan Road
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G51 4TF

Study participating centre
The Royal Victoria Infirmary
Queen Victoria Road
Newcastle upon Tyne
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NE1 4LP

Study participating centre
Royal Manchester Children's Hospital
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M13 9WL

Study participating centre
Sheffield Children's Hospital
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Study participating centre
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Study participating centre
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Study participating centre
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Study participating centre
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Sponsor information

Organisation
Academic and Clinical Centre Office for Research and Development (ACCORD) (UK)

ROR
https://ror.org/01x6s1m65

Funder(s)

Funder type
Government

Funder Name
European Commission Directorate-General for Research and Innovation, FP7-Health-2012-Innovation-1, Funding ref nr 305653

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be stored in a non-publically available repository – the Child-EU registry which is administered by the Kids Lung Register Foundation. Access to anonymised datasets should be requested from the Kids Lung Registry Foundation. Contact ChILD-EU.register@med.uni-muenchen.de and Prof Matthias Griese (Matthias.Griese@med.uni-muenchen.de) for further information.

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/02/2020	28/09/2020	Yes	No
HRA research summary			28/06/2023	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes