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STudy of Antibiotic Treatment In Children with chronic cough (STATIC)

Submission date
24/08/2015

Recruitment status
Stopped

Registration date
28/09/2015

Overall study status
Stopped

Last Edited
15/11/2019

Condition category
Respiratory

[X] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Protracted Bacterial Bronchitis (PBB) is a type of chest infection which causes children to cough throughout the day and night, often for many months (chronic). This can be upsetting for both the child and their family as it disrupts sleep and attendance at nursery and school. It has been found that even though PBB can be treated with antibiotics, which can stop the cough, the infection often comes back. A possible reason for this is that children are not being given the antibiotic for a long enough time for it to completely eliminate the infection. The aim of this study is to find out whether six weeks of oral antibiotics are more effective than two weeks of oral antibiotics at treating children with chronic cough.

Who can participate?
Children how have had a wet cough for more than 4 weeks.

What does the study involve?
Children who have had a “wet” cough lasting for more than four weeks are given a bronchoscopy, in which a camera is inserted into the airways, in order to find out whether the cough is being caused by bacteria. The children who have a chest infection caused by bacteria are then randomly split into two groups. The children in the first group are given the antibiotic co-amoxiclav for two weeks, and the children in the second group are given the antibiotic co-amoxiclav for six weeks. Before and after treatment, the parents record how bad their child’s cough is using a questionnaire, and the child also performs a special blowing test (lung clearance index), which is a way to measure abnormal breathing. The parents of the children whose cough gets better are contacted every month for one year to ask if the cough has returned. If it does return, the child is asked to provide a spit sample to find out if it is the same or different bacteria causing the repeated cough.

What are the possible benefits and risks of participating?
Participating in this study will not have any direct benefit for children as they are likely to be treated with antibiotics even if they are not included in the study. There are no risks to the children who participate in this study as co-amoxiclav in an accepted and safe treatment in children with chronic wet cough.

Where is the study run from?
Royal Stoke University Hospital (UK)

When is the study starting and how long is it expected to run for?
March 2016 to January 2022

Who is funding the study?
Royal Stoke University Hospital (UK)

Who is the main contact?
Dr Francis Gilchrist
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Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

Scientific Title
Investigating the optimal duration of antibiotic treatment for children with a chronic wet cough

Acronym
STATIC

Study objectives
Six weeks of oral antibiotic (as suggested in the UK national cough guideline) is no more effective than two weeks antibiotic at treating chronic cough in children.

Ethics approval required
Old ethics approval format

Ethics approval(s)
East Midlands - Leicester South Research Ethics Committee, 07/04/2016, REC ref: 16/EM/0047

Study design
Randomised parallel trial

Primary study design
Interventional

Secondary study design
Randomised parallel trial

Study setting(s)
Hospital

Study type(s)
Treatment

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
Chronic wet cough in children

Interventions
Pre Treatment Visit:
As part of routine investigation for chronic wet cough, the child will attend the Paediatric Day Case Unit for bronchoscopy. At this visit, the child will have baseline study data collected. This will include a validated Cough Score, a validated Cough QoL Questionnaire, Lung Clearance Index (LCI) and blood tests. Bacteria cultured from the bronchoscopy will be identified and cryogenically stored.

Antibiotic Treatment:
Children with a positive bronchoscopy culture with an organism resistant to co-amoxiclav will exit the study. All others will be randomised to receive two or six weeks of oral co-amoxiclav. The dose will be: 0.25ml/kg of 125/31 suspension three times daily for those 6 months to 1 year old, 5ml of 125/31 suspension three times daily for those 1-6 years old and 5ml of 250/62 suspension three times daily for those 6-10 years old. During the two or six week antibiotic course the parent will record the cough score in a diary on a daily basis and for two days after treatment has finished.

Post Treatment Visit:
Within 48 hours of treatment completion, the child will attend for review. The cough scores will be analysed as the primary outcome. Cough QoL and LCI measurement will be repeated. These are the secondary outcome measures. Adherence to treatment will be assessed by a urine co-amoxiclav assay and by the medicines adherence rating scale (MARS).

One Year Follow-up:
Those whose wet cough has responded to antibiotics, will be followed up for 12 months to assess the incidence of chronic cough relapse. The 12 month study follow-up will involve monthly telephone calls during which the Cough QoL and Cough Score will be completed to assess progress over the preceding four weeks. If the chronic cough relapses during the 12 month follow-up, an induced sputum or cough swab will be collected. Isolated organisms will be identified and then cryogenically stored. If the organism(s) are the same as isolated at the bronchoscopy then both will undergo bacterial sequencing to see if they are genetically identical.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Co-amoxiclav

Primary outcome measure
Cough score will be recorded by the parent for two days prior to treatment commencing, daily during treatment and for two days after treatment completion. This validated cough scoring system correlates with objective cough counts as measured by a cough meter. It involves scoring the cough on a scale of 0-5. Cough resolution is defined as >75% reduction in the mean of the two recordings pre-treatment and the mean of the two recordings post-treatment or cessation of coughing for ≥3 days recorded daily during treatment. Cough score will also be recorded monthly in those who enter the 12 month follow-up as an outcome measure to assess the incidence of chronic cough relapse.

Secondary outcome measures
1. Cough Specific QoL Questionnaire: The shortened parent cough-specific QoL questionnaire (PC-QOL-8) will be used. It consists of 8 questions which are scored 1-7 and has been fully validated. It covers physical, psychological and social QoL domains. It will be measured at the pre and post treatment visits to help assess the initial response to treatment and monthly in those who enter the 12 month follow-up to assess the incidence of chronic cough relapse.
2. Lung Clearance Index (LCI): LCI is a novel form of lung function. It will be measured using an InnocorTM Gas Analyser at the pre and post treatment visits to help assess the initial response to treatment.
3. Bacterial Sequencing: All isolated organisms will be identified using standard techniques and then stored on Microbank® cryogenic beads (Pro-lab Diagnostics, UK) at -70 degrees Celsius in the RSUH Microbiology Laboratory. When a child grows the same organism from an induced sputum or cough swab during an episode of chronic cough relapse that was also identified on the bronchoscopy both samples will undergo bacterial sequencing to investigate if they are genetically identical. This will identify if relapses are caused by the same organism as the initial episode.

4. Blood Markers of Bacterial Inflammation and Asthma / Atopy: At the pre-treatment visit blood samples will be taken for full blood count, total IgE, CC16, IL-5 and procalcitonin. The first four of these can be used as markers of asthma / atopy. We hypothesise that children who do not respond to antibiotics will have evidence of asthma / atopy suggesting an alternative diagnosis. Procalcitonin is a sensitive marker of bacterial induced inflammation. It can be used to predict if children with community acquired pneumonia will or will not respond to antibiotic treatment. We hypothesise that children who do not respond to antibiotics will have low levels of procalcitonin suggesting there is no bacterial case for their cough.

Overall study start date
01/03/2016

Completion date
31/01/2022

Reason abandoned (if study stopped)
Lack of funding/sponsorship

Eligibility

Key inclusion criteria
1. Aged 6 months to 10 years
2. Parent reported cough for more than 4 weeks
3. Doctor observed moist / wet cough

Participant type(s)
Patient

Age group
Child

Lower age limit
6 Months

Upper age limit
10 Years

Sex
Both

Target number of participants
80

Key exclusion criteria
1. Gross developmental delay
2. Cystic fibrosis
3. Ex-premature birth (<36 wks)
4. Interstitial lung disease
5. Cardiac abnormalities
6. Non cystic fibrosis bronchiectasis

7. Immunodeficiency
8. Haemoptysis
9. Penicillin allergy

Date of first enrolment
01/08/2018

Date of final enrolment
01/08/2020

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
Royal Stoke Unversity Hospital
Newcastle Road
Stoke on Trent
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ST4 6QG

Sponsor information

Organisation
Royal Stoke University Hospital

Sponsor details
Research and Development Department
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Sponsor type
Hospital/treatment centre

ROR
https://ror.org/01dx1mr58

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
The North Staffordshire Medical Institute 50th Anniversary Grant

Results and Publications

Publication and dissemination plan
Planned publication and presentation of the study results.

Intention to publish date
01/02/2019

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 on NHS encrypted computers.

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No