

The relationship between the microbes in the lower respiratory tract and allergic respiratory diseases in children

Submission date 30/09/2020	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 06/10/2020	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 07/01/2022	Condition category Respiratory	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

With the development of DNA sequencing technologies, it has been found that there are microbes similar to those in the upper respiratory tract (the nose and nasal cavity, the pharynx, and the larynx) present in the healthy human lower respiratory tract (LRT), including the lungs and bronchi. The aim of this study is to analyse the LRT microbiome and evaluate the relationship between this microbiome and allergic respiratory diseases in children.

Who can participate?

Children who visit the respiratory department and undergo bronchoscopy (a procedure where a tube is inserted through the nose or mouth, down the throat and into the windpipe, bronchi and bronchioles of the lungs)

What does the study involve?

Total IgE (antibody) levels are detected using a special protein analyser. The peripheral blood cell count is measured using an automatic blood analyser. DNA is extracted from samples of fluid taken during bronchoscopy and the microbiome is sequenced and analysed.

What are the possible benefits and risks of participating?

There are no benefits and risks of participating.

Where is the study run from?

The affiliated hospital of the Capital Institute of Pediatrics (China)

When is the study starting and how long is it expected to run for?

January 2018 to May 2020

Who is funding the study?

Beijing Medical Research Institute (China)

Who is the main contact?
Jinghua Cui
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Contact information

Type(s)
Scientific

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
704209958

Study information

Scientific Title
The relationship between the lower respiratory tract microbiome and allergic respiratory tract diseases in children

Study objectives
A decrease in microbial diversity and change in composition could lead to an increase in allergic symptoms. The colonised microbiota of the lower respiratory tract (LRT) in children, especially that of Bacteroidetes and Streptococcus, show a certain correlation with early respiratory allergic diseases.

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 20/06/2019, the medical ethics committee of the Capital Institute of Pediatrics (Beijing, China. +86 (0)8569 5535; shouerkyb@sina.com), ref: SHERLLM2019006

Study design

Single-centre cross-sectional cohort study

Primary study design

Observational

Study type(s)

Other

Health condition(s) or problem(s) studied

Allergic respiratory tract diseases in children

Interventions

Nucleic acid is extracted from samples of bronchoalveolar lavage fluid (BALF) of children taken during bronchoscopy treatment and the 16S rDNA gene is sequenced and analysed.

Intervention Type

Other

Primary outcome(s)

The microbiome in BAFL measured using 16S rDNA sequenced on a MiSeq instrument (Illumina, Inc.) using a Miseq v2 reagent kit (Illumina, Inc.) at a single timepoint

Key secondary outcome(s)

There are no secondary outcome measures

Completion date

01/05/2020

Eligibility**Key inclusion criteria**

Children who visit the respiratory department and undergo bronchoscopy

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Child

Sex

All

Total final enrolment

Key exclusion criteria

1. Diagnosis of pneumonia with specific pathogen infection such as fungus, virus, or mycoplasma
2. History of mechanical ventilation

Date of first enrolment

01/01/2018

Date of final enrolment

31/12/2018

Locations**Countries of recruitment**

China

Study participating centre

The affiliated hospital of the Capital Institute of Pediatrics

Beijing

China

10020

Sponsor information**Organisation**

Capital Institute of Pediatrics

ROR

<https://ror.org/00zw6et16>

Funder(s)**Funder type**

Research organisation

Funder Name

Beijing Medical Research Institute (BMR2019-11)

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Jinghua Cui (cuijinghua7910@ hotmail.com). After the paper and the data are published, if consent is obtained from the author, the data can be shared with all who are interested in this study.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		14/05/2021	07/01/2022	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes