European Cystic Fibrosis Society

Journal of Cystic Fibrosis
The Official Journal of the European Cystic Fibrosis Society

Cystic Fibrosis Research News

Title:

LONGITUDINAL STUDY OF *STENOTROPHOMONAS MALTOPHILIA* ANTIBODY LEVELS AND OUTCOMES IN CYSTIC FIBROSIS PATIENTS

Authors:

Jillian Wettlaufer[1]*, Michelle Klingel[2]*, Yvonne Yau[3], Sanja Stanojevic[2], Elizabeth Tullis[4], Felix Ratjen[2], Valerie Waters[1]
*Contributed equally to the manuscript

Affiliations:

[1]Division of Infectious Diseases, Department of Pediatrics, The Hospital for Sick Children, University of Toronto, 555 University Avenue, Toronto, Canada M5G 1X8.
[2]Division of Respiratory Medicine, Department of Pediatrics, Hospital for Sick Children, University of Toronto, Toronto.
[3]Division of Microbiology, Department of Pediatric Laboratory Medicine, The Hospital for Sick Children, University of Toronto, 555 University Avenue, Toronto, Canada M5G 1X8.
[4]Division of Respirology and Keenan Research Centre of Li Ka Shing Knowledge Institute, Department of Medicine, St. Michael's Hospital, University of Toronto, 30 Bond Street, Toronto, Canada M5B 1W8.

What was your research question?

One of the body's main immune responses to germs is to produce antibodies in the blood, which help the body recognise and fight the germ. We wanted to know whether changes in antibody levels to the germ *Stenotrophomonas maltophilia* (*S. maltophilia*) could predict the lung health of a person with cystic fibrosis (CF).

Why is this important?

This is important because we do not have a way of knowing which people with CF who have *S. maltophilia* infection will get sick and which ones will not. This marker of blood antibody could therefore help us to target antibiotic treatment to those who need it most.

What did you do?

We measured the antibody levels to S. maltophilia in 409 blood samples, collected from 135 people with CF over a 6 year period and compared these measurements to their lung function and whether they had subsequent episodes of worsening respiratory health (pulmonary exacerbations).

European Cystic Fibrosis Society

Journal of Cystic Fibrosis
The Official Journal of the European Cystic Fibrosis Society

Cystic Fibrosis Research News

What did you find?

We found that although levels of antibodies against *S. maltophilia* did not change very much over time, higher levels were associated with an increased risk of future pulmonary exacerbation.

What does this mean and reasons for caution?

Antibody levels against *S. maltophilia* in blood may be helpful in identifying those people with CF at increased risk of worse respiratory health and therefore benefit from earlier antibiotic treatment. However, we do not know whether antibiotic treatment would be beneficial in these cases.

What's next?

A trial is needed to test whether antibiotic treatment of people with CF and *S. maltophilia* infection will improve their lung health.

Original manuscript citation in PubMed

https://www.ncbi.nlm.nih.gov/pubmed/?term=LONGITUDINAL+STUDY+OF+STENOTROPHOMONAS+MALTOPHILIA+ANTIBODY+LEVELS+AND+OUTCOMES+IN+CYSTIC+FIBROSIS+PATIENTS