

Cystic Fibrosis Research News

Title:

Cystic fibrosis related diabetes is not independently associated with increased *Stenotrophomonas maltophilia* infection: longitudinal data from the UK CF Registry

Authors:

Freddy Frost¹, Dilip Nazareth¹, Matt Shaw², Martin Walshaw¹

Affiliations:

¹Regional Adult CF Centre, Liverpool Heart and Chest Hospital, Liverpool, L143PE, UK

²Clinical Information Analyst, Research Department, Liverpool Heart and Chest Hospital, Liverpool, L14 3PE, UK

What was your research question?

Is a bacterium called *Stenotrophomonas maltophilia* more common in people with cystic fibrosis related diabetes (CFRD)?

Why is this important?

Stenotrophomonas is bacteria that can be found in the sputum of about 10 percent of people with CF. The clinical importance of *Stenotrophomonas* is uncertain with some studies showing it can be harmful and others showing it isn't harmful. In order to better understand *Stenotrophomonas*, we must understand which people are more at risk of infection. We know from previous smaller studies that people with more severe lung disease are at higher risk of *Stenotrophomonas* infection. Recently CFRD has also been suggested to be a risk factor. As it is important to understand who is at risk of infection and why, we set about investigating the relationship between *Stenotrophomonas* and CFRD in more detail.

What did you do?

We used national registry data from the UK CF Registry to investigate whether having CFRD was a risk factor for acquiring *Stenotrophomonas*. We first looked to see if *Stenotrophomonas* was more common in people with CFRD versus those without CFRD, and then did further statistical analysis to allow a fair comparison.

What did you find?

Using national registry data allowed us to look a large number of people with CF and *Stenotrophomonas* and compare them to people with CF but no *Stenotrophomonas*. Initially



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we found that *Stenotrophomonas* was more common in people with CFRD. However, when we took the severity of CF lung disease into account using statistical methods, it seemed that actually CFRD is not a risk factor for *Stenotrophomonas* infection.

What does this mean and reasons for caution?

Our findings indicate CFRD isn't an independent risk factor for *Stenotrophomonas*. People with CFRD often have more severe lung disease. It appears that those risk factors, rather than CFRD itself, are responsible for the increased *Stenotrophomonas* in people with CFRD. One reason for caution is that with registry based data there is a risk that the results may be confounded by bias arising from how data is collected or reported. Other studies have found a relationship with *Stenotrophomonas* and early stages of diabetes. We weren't able to tell how long people had had CFRD in our study so we can't rule out different results in early diabetes.

What's next?

To confirm the findings of this study we are exploring ways to see if *Stenotrophomonas* rates are similar in people with the early stages of diabetes.

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<https://www.ncbi.nlm.nih.gov/pubmed/30741162>