

Cystic Fibrosis Research News

Title:

Impact of airway *Exophiala* spp. on children with cystic fibrosis

Lay Title:

Does having *Exophiala* in sputum samples make a difference to health in CF?

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What was your research question?

We wanted to know whether children with CF who had the bug *Exophiala* in their sputum or cough swab samples had poorer health than those who did not. We also wanted to know whether it could be causing them to be less well.

Why is this important?

Exophiala is an unusual bug, and is a fungus that we all breathe in on a regular basis. In CF we have seen a large increase in the number of sputum samples we grow this from. Recent changes to lab procedures mean we may just be better at detecting something that has always been there. What we don't know is whether this is harmful or whether its a bystander in the sputum (ie does no harm). This is important for deciding whether, how or when to offer treatment.

What did you do?

We looked at all our CF children who had grown *Exophiala* in their sputum. We compared them to children from our centre who had never grown *Exophiala* and to the UK CF population. We also looked at their health for 12 months before and after they first grew



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Exophiala to see if this had resulted in a change. Finally we reviewed the success/failures of any treatments given for this infection.

What did you find?

Children with Exophiala did not seem to be sicker than those without. They had similar lung function, similar requirements for IV antibiotics and similar rates of other CF complications. They seemed to have more growth of other fungus bugs in their sputum, but not typical CF bugs like Pseudomonas.

Over time, their lung function didn't get worse after growing Exophiala, nor did they need more IVs. This was true even in those who grew Exophiala lots of times. Finally, we concluded that Exophiala can be hard to clear with treatment, many of which have side effects.

What does this mean and reasons for caution?

Our data seem to show that growing Exophiala in CF sputum is quite common (found in 1 in 9 CF patients in our clinic). However it does not specifically affect those with worse lungs and nor does it seem to cause changes in health over this relatively short follow up of 12 months. There may be some patients more prone to lung infection with fungus rather bacteria, but we don't know what that means yet. We advise doctors to be cautious and not to try treating Exophiala unless they are certain it is causing health problems.

What's next?

We will continue to monitor for growth of Exophiala in children. We have adopted a watch-and-wait approach, and use this research to reassure patients. We also need to investigate whether this is the same in adults. Further research would require larger number of patients and follow them for longer.

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